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(concluded)

according to the number of sheets having the ink concentration control means. As a result, the image thus formed on the plate material showed no defects due to dust and was not affected by the change of the ambient temperature. As the number of sheets of printing plates made increased, the diameter of dots printed showed some but an acceptable change. The printing plates thus made were also subjected to flash fixing as mentioned above and fixing by irradiation with light from a halogen lamp (Type QIR, produced by USHIO INC.), or fixed with a spray of ethyl acetate.

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**IN THE CLAIMS:**

**The claims are amended as follows:**

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1. (Amended) An on-press recording type lithographic printing method comprising mounting a plate material on a plate cylinder of a press, ejecting an oil-based ink onto the plate material from a recording head having a plurality of ejection channels utilizing an electrostatic field according to signals of image data to directly form an image on the surface of the plate material and prepare a printing plate, and then effecting the lithographic printing using the printing plate as it is,

wherein the distance between the ejection channels is 170  $\mu\text{m}$  or more { 150 dpi (150 dots per inch) or less as calculated in terms of resolution of recorded image }.

2. (Amended) The on-press recording type lithographic printing method according to Claim 1, wherein said oil-based ink is a dispersion comprising resin particles which are solid and

hydrophobic at least at one temperature dispersed in a nonaqueous solvent having an inherent electrical resistance of  $10^9 \Omega\text{-cm}$  or more and a dielectric constant of 3.5 or less.

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3. (Amended) An on-press recording type lithographic printing apparatus comprising an image forming means for directly forming an image onto a plate material mounted on a plate cylinder of a press by using an ink jet recording device which ejects an oil-based ink from a recording head having a plurality of ejection channels according to signals of image data utilizing an electrostatic field, a lithographic printing means for effecting a lithographic printing using a printing plate formed by said image forming means,

wherein image forming means includes the recording head having the distance between the ejection channels being  $170 \mu\text{m}$  or more {150 dpi (150 dots per inch) or less as calculated in terms of resolution of recorded image}.

4. (Amended) The on-press recording type lithographic printing apparatus according to Claim 3, wherein said oil-based ink is a dispersion comprising resin particles which are solid and hydrophobic at least at one temperature dispersed in a nonaqueous solvent having an inherent electrical resistance of  $10^9 \Omega\text{-cm}$  or more and a dielectric constant of 3.5 or less.

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8. (Amended) The on-press recording type lithographic printing apparatus according to Claim 7, wherein said ink jet recording device carries out subscanning by the recording head by

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(concluded)* approaching and separating from said plate cylinder in an axial direction when recording an image on said plate material.

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*B18* 12. (Twice Amended) The on-press recording type lithographic printing apparatus according to Claim 3, further comprising ink temperature controlling means for controlling the temperature of the ink in an ink tank housing the oil-based ink.

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*B19* 17. (Amended) A plate making method comprising directly forming an image on a plate material and preparing a printing plate by recording using an ink jet method which ejects an oil-based ink from a recording head having a plurality of ejection channels according to signals of image data utilizing an electrostatic field, a lithographic printing means for effecting a lithographic printing using a printing plate formed by image forming means,

wherein the formation of the image onto the plate material is carried out by the recording head having the distance between the ejection channels being 170  $\mu\text{m}$  or more {150 dpi (150 dots per inch) or less as calculated in terms of resolution of recorded image}.

18. (Amended) The plate making method according to Claim 17, wherein said oil-based ink is a dispersion comprising resin particles which are solid and hydrophobic at least at one temperature dispersed in a nonaqueous solvent having an inherent electrical resistance of  $10^9 \Omega\text{-cm}$  or more and a dielectric constant of 3.5 or less.

19. (Amended) A plate making apparatus comprising image forming means for directly forming an image on a plate material by an ink jet recording device which ejects an oil-based ink from a recording head having a plurality of ejection channels according to signals of image data utilizing an electrostatic field,

wherein the formation of the image onto the plate material is carried out by the recording head having the distance between the ejection channels being  $170\text{ }\mu\text{m}$  or more {150 dpi (150 dots per inch) or less as calculated in terms of resolution of recorded image}.

20. (Amended) The plate making apparatus according to Claim 19, wherein said oil-based ink is a dispersion comprising resin particles which are solid and hydrophobic at least at one temperature dispersed in a nonaqueous solvent having an inherent electrical resistance of  $10^9\text{ }\Omega\text{-cm}$  or more and a dielectric constant of 3.5 or less.

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23. (Twice Amended) The plate making apparatus according to Claim 19, wherein the image is recorded by causing a printing medium to move by rotating a drum having the plate material mounted thereon when recording an image on the plate material.

24. (Amended) The plate making apparatus according to Claim 23, wherein the image is recorded by also causing the recording head to move in an axial direction of said drum.

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25. (Twice Amended) The plate making apparatus according to Claim 19, wherein when recording the image on the plate material, subscanning is carried out by causing said plate material to move by being pinched by at least a pair of capstan rollers.

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28. (Amended) The plate making apparatus according to Claim 27, further comprising ink recovering means for recovering the oil-based ink from the recording head, where ink circulation is carried out.

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29. (Twice Amended) The plate making apparatus according to Claim 19, wherein the ink jet recording device includes ink stirring means for stirring the oil-based ink in an ink tank housing the oil-based ink.

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30. (Twice Amended) The plate making apparatus according to Claim 19, wherein the ink jet recording device includes ink temperature controlling means for controlling the temperature of the oil-based ink in an ink tank housing the oil-based ink.

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33. (Amended) A printing method comprising directly forming an image onto a printing medium and producing a print by an ink jet method which ejects an oil-based ink from a recording head having a plurality of ejection channels according to signals of image data utilizing an electrostatic field,

wherein the formation of the image onto the printing medium is carried out by the recording head having the distance between the ejection channels being 170  $\mu\text{m}$  or more { 150 dpi (150 dots per inch) or less as calculated in terms of resolution of recorded image }.

34. (Amended) The ink jet printing method according to Claim 33, wherein said oil-based ink is a dispersion comprising color particles which are solid and hydrophobic at least at one temperature dispersed in a nonaqueous solvent having an inherent electrical resistance of  $10^9$   $\Omega\text{-cm}$  or more and a dielectric constant of 3.5 or less.

35. (Amended) A printing apparatus comprising image forming means for directly forming an image onto a printing medium by an ink jet recording device which ejects an oil-based ink from a recording head having a plurality of ejection channels according to signals of image data utilizing an electrostatic field,

wherein the formation of the image onto the printing medium is carried out by the recording head having an image forming means, where the distance between the ejection channels being 170  $\mu\text{m}$  or more { 150 dpi (150 dots per inch) or less as calculated in terms of resolution of recorded image }.

36. (Amended) The printing apparatus according to Claim 35, wherein said oil-based ink is a dispersion comprising color particles which are solid and hydrophobic at least at one

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temperature dispersed in a nonaqueous solvent having an inherent electrical resistance of  $10^9 \Omega$ -cm or more and a dielectric constant of 3.5 or less.

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41. (Twice Amended) The printing apparatus according to Claim 35, wherein when recording onto the printing medium, the image is recorded by causing said printing medium to move by being pinched by at least a pair of capstan rollers.

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45. (Twice Amended) The printing apparatus according to Claim 35, wherein the ink jet recording device includes ink stirring means for stirring the oil-based ink in an ink tank housing the oil-based ink.

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46. (Twice Amended) The printing apparatus according to Claim 35, wherein the ink jet recording device includes ink temperature controlling means for controlling the temperature of the oil-based ink in an ink tank housing the oil-based ink.

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**Please add the following new claims 49-72.**

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-- 49. (New) An on-press recording type lithographic printing apparatus comprising:  
an image forming means for directly forming an image onto a plate material mounted on a plate cylinder of a press by using an ink jet recording device which ejects an oil-based ink from a recording head having a plurality of ejection channels according to signals of image data utilizing an electrostatic field, a lithographic printing means for effecting a lithographic printing using a printing plate formed by said image forming means,

wherein the image forming means predetermines the distance between the respective ejection channels of the head to be greater than at least the distance between horizontally adjacent dots to be ejected which is determined by the resolution of a desired image to be recorded,

wherein the recording head has a distance between the ejection channels of 170  $\mu\text{m}$  or more, and

wherein a desired image is obtained by repeatedly performing a step of roughly all channel widths so that no gap is produced after a step of the distance of adjacent dots which is determined by the resolution of recorded images being repeated a predetermined number of times, so as not to lap the dots over the dots of the adjacent channels.

50. (New) A plate making apparatus comprising:

image forming means of directly forming an image on a plate material by an ink jet recording device which ejects an oil-based ink from a recording head having a plurality of ejection channels according to signals of image data utilizing an electrostatic field,

wherein a distance between respective ejection channels of the head is predetermined to be greater than at least the distance between horizontally adjacent dots to be ejected which is determined by the resolution of a desired image to be recorded,

wherein the recording head has a distance between the ejection channels of 170  $\mu\text{m}$  or more, and



wherein a desired image is obtained by repeatedly performing a step of roughly all channel widths so that no gap is produced after a step of the distance of adjacent dots which is determined by the resolution of recorded images being repeated a predetermined number of times, so as not to lap the dots over the dots of the adjacent channels.

51. (New) A printing apparatus comprising:

image forming means of directly forming an image onto a printing material by an ink jet recording device which ejects an oil-based ink from a recording head having a plurality of ejection channels according to signals of image data utilizing an electrostatic field,

wherein a distance between respective ejection channels of the head is predetermined to be greater than at least the distance between horizontally adjacent dots to be ejected which is determined by the resolution of a desired image to be recorded,

wherein the recording head has a distance between the ejection channels of 170  $\mu\text{m}$  or more, and

wherein a desired image is obtained by repeatedly performing a step of roughly all channel widths so that no gap is produced after a step of the distance of adjacent dots which is determined by the resolution of recorded images being repeated a predetermined number of times, so as not to lap the dots over the dots of the adjacent channels.

52. (New) An on-press recording type lithographic printing method comprising:

directly forming an image onto a plate material mounted on a plate cylinder of a press by using an ink jet recording device which ejects an oil-based ink from a recording head having a plurality of ejection channels according to signals of image data utilizing an electrostatic field, a lithographic printing means for effecting a lithographic printing using a printing plate formed by said image forming means,

predetermining a distance between the respective ejection channels of the head to be greater than at least the distance between horizontally adjacent dots to be ejected which is determined by the resolution of a desired image to be recorded, and

providing the recording head with a distance between the ejection channels of 170  $\mu\text{m}$  or more,

wherein a desired image is obtained by repeatedly performing a step of roughly all channel widths so that no gap is produced after a step of the distance of adjacent dots which is determined by the resolution of recorded images being repeated a predetermined number of times, so as not to lap the dots over the dots of the adjacent channels.

53. (New) A plate making method comprising:

directly forming an image on a plate material by an ink jet recording device which ejects an oil-based ink from a recording head having a plurality of ejection channels according to signals of image data utilizing an electrostatic field,

predetermining a distance between respective ejection channels of the head to be greater than at least the distance between horizontally adjacent dots to be ejected which is determined by the resolution of a desired image to be recorded, and

providing the recording head with a distance between the ejection channels of 170  $\mu\text{m}$  or more,

wherein a desired image is obtained by repeatedly performing a step of roughly all channel widths so that no gap is produced after a step of the distance of adjacent dots which is determined by the resolution of recorded images being repeated a predetermined number of times, so as not to lap the dots over the dots of the adjacent channels.

54. (New) A printing method comprising:

directly forming an image onto a printing material by an ink jet recording device which ejects an oil-based ink from a recording head having a plurality of ejection channels according to signals of image data utilizing an electrostatic field,

predetermining a distance between respective ejection channels of the head to be greater than at least the distance between horizontally adjacent dots to be ejected which is determined by the resolution of a desired image to be recorded, and

providing the recording head with a distance between the ejection channels of 170  $\mu\text{m}$  or more,

wherein a desired image is obtained by repeatedly performing a step of roughly all channel widths so that no gap is produced after a step of the distance of adjacent dots which is

determined by the resolution of recorded images being repeated a predetermined number of times, so as not to lap the dots over the dots of the adjacent channels.

55. (New) The on-press recording type lithographic printing apparatus according to Claim 49, wherein said oil-based ink is a dispersion comprising resin particles which are solid and hydrophobic at least at one temperature dispersed in a nonaqueous solvent having an inherent electrical resistance of  $10^9 \Omega\text{-cm}$  or more and a dielectric constant of 3.5 or less.

56. (New) The on-press recording type lithographic printing apparatus according to Claim 49, wherein said image forming means carries out main scanning by rotations of the plate cylinder mounted on the plate material.

57. (New) The on-press recording type lithographic printing apparatus according to Claim 56, wherein said ink jet recording device carries out subscanning by the recording head by approaching and separating from said plate cylinder in an axial direction when recording an image on said plate material.

58. (New) The plate making apparatus according to Claim 50, wherein said oil-based ink is a dispersion comprising resin particles which are solid and hydrophobic at least at one temperature dispersed in a nonaqueous solvent having an inherent electrical resistance of  $10^9 \Omega\text{-cm}$  or more and a dielectric constant of 3.5 or less.

59. (New) The plate making apparatus according to Claim 50, wherein said image forming means carries out main scanning by rotations of the plate cylinder mounted on a plate material.

60. (New) The plate making apparatus according to Claim 59, wherein said ink jet recording device carries out subscanning by the recording head approaching and separating from said plate cylinder in an axial direction when recording an image on said plate material.

61. (New) The printing apparatus according to Claim 51, wherein said oil-based ink is a dispersion comprising resin particles which are solid and hydrophobic at least at one temperature dispersed in a nonaqueous solvent having an inherent electrical resistance of  $10^9 \Omega\text{-cm}$  or more and a dielectric constant of 3.5 or less.

62. (New) The printing apparatus according to Claim 51, wherein said image forming means carries out main scanning by rotations of a plate cylinder mounted on the plate material.

63. (New) The printing apparatus according to Claim 62, wherein said ink jet recording device carries out subscanning by the recording head approaching and separating from said plate cylinder in an axial direction when recording an image on said plate material.

64. (New) The on-press recording type lithographic printing method according to Claim 52, wherein said oil-based ink is a dispersion comprising resin particles which are solid and hydrophobic at least at one temperature dispersed in a nonaqueous solvent having an inherent electrical resistance of  $10^9 \Omega\text{-cm}$  or more and a dielectric constant of 3.5 or less.

65. (New) The on-press recording type lithographic printing method according to Claim 52, wherein said image forming means carries out main scanning by rotations of the plate cylinder mounted on the plate material.

66. (New) The on-press recording type lithographic printing method according to Claim 65, wherein said ink jet recording device carries out subscanning by the recording head by approaching and separating from said plate cylinder in an axial direction when recording an image on said plate material.

67. (New) The plate making method according to Claim 53, wherein said oil-based ink is a dispersion comprising resin particles which are solid and hydrophobic at least at one temperature dispersed in a nonaqueous solvent having an inherent electrical resistance of  $10^9 \Omega\text{-cm}$  or more and a dielectric constant of 3.5 or less.

68. (New) The plate making method according to Claim 53, wherein said image forming means carries out main scanning by rotations of the plate cylinder mounted on a plate material.

69. (New) The plate making method according to Claim 68, wherein said ink jet recording device carries out subscanning by the recording head approaching and separating from said plate cylinder in an axial direction when recording an image on said plate material.

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70. (New) The printing method according to Claim 54, wherein said oil-based ink is a dispersion comprising resin particles which are solid and hydrophobic at least at one temperature dispersed in a nonaqueous solvent having an inherent electrical resistance of  $10^9 \Omega\text{-cm}$  or more and a dielectric constant of 3.5 or less.

71. (New) The printing method according to Claim 54, wherein said image forming means carries out main scanning by rotations of a plate cylinder mounted on the plate material.

72. (New) The printing method according to Claim 71, wherein said ink jet recording device carries out subscanning by the recording head approaching and separating from said plate cylinder in an axial direction when recording an image on said plate material. --

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